AMENDMENTS TO THE CLAIMS

1. (previously presented) A method for managing leased network addresses for a plurality of networks using overlapping address spaces, the method comprising the computer-implemented steps of:

> storing a plurality of banks of addresses, wherein each said bank includes a pool of available addresses and a data structure of leased addresses, corresponding to the plurality of networks, wherein at least one particular set of one or more network addresses is included in more than one bank of the plurality of banks;

> receiving a request for a network address for a host on a first network of the plurality of networks from a relay agent on an intermediate device connected to the first network, the request including a qualifier associated with the first network by the relay agent;

> based on the qualifier, selecting a first bank of addresses from the plurality of banks;

> identifying a first network address from the first bank of addresses based at least in part on the request; and

> sending to the relay agent a response for the host, the response indicating the first network address and the qualifier.

2. (previously presented) A method as recited in Claim 1, wherein said step of storing the plurality of banks further comprises the step of storing data indicating a value for the qualifier in association with each bank of the plurality of banks.

3. (previously presented) A method as recited in Claim 1, wherein the qualifier further includes a segment identifier of a segment of the first network.

4. (previously presented) A method as recited in Claim 3, wherein said step of identifying the first network address from the first bank is further based on the segment identifier.

5.   (previously presented) A method as recited in Claim 1, wherein the request is formatted according to a dynamic host configuration protocol (DHCP)

6.   (previously presented) A method as recited in Claim 5, wherein the qualifier is included in the request in a set of optional fields associated with the relay-agent in the DHCP.

7.   (previously presented) A method as recited in Claim 1, said step of sending the response further comprising the step of formatting the response according to a dynamic host configuration protocol (DHCP).

8.   (previously presented) A method as recited in Claim 7, wherein the qualifier is included in the response in a set of optional fields associated with the relay-agent in the DHCP.

9.   (previously presented) A method as recited in Claim 1, wherein:

the request is to lease a new network address for the host; and

said step of identifying the first network address comprises selecting the first network address from a pool of available network addresses in the first bank.

10.   (previously presented) A method as recited in Claim 1, wherein:

the request involves an already leased network address for the host; and

said step of identifying the first network address comprises retrieving the first network address from a data structure of leased network addresses in the first bank.

11.   (previously presented) A method for managing leased network addresses for a plurality of networks using overlapping address spaces, the method comprising the computer-implemented steps of:

receiving, at a relay agent executing on an intermediate device connected to a first network of the plurality of networks, a first request for a network address from a host on the first network;

associating a particular qualifier with the first network; and

sending to a configuration server a second request for a network address for the host, the second request including the particular qualifier.

12.   (previously presented) A method as recited in Claim 11, wherein:

the intermediate device includes a plurality of interfaces connected to one or more segments of one or more networks of the plurality of networks;

the method further comprises the step of storing a plurality of qualifiers corresponding to the plurality of interfaces, each qualifier uniquely identifying one network of the plurality of networks; and

said step of associating the particular qualifier with the first network further comprises the step of retrieving the particular qualifier corresponding to a particular interface connected to the host.

13.   (previously presented) A method as recited in Claim 12, wherein each qualifier includes a segment identifier uniquely identifying a segment of a network of the plurality of networks, the segment connected to a corresponding interface of the plurality of interfaces.

14.   (previously presented) A method as recited in Claim 11, wherein:

the host is on a particular segment of the first network;

the particular segment is connected to a particular interface of the intermediate device; and

the particular qualifier includes a segment identifier for the particular segment.

15.   (previously presented) A method as recited in Claim 11, wherein the first request is formatted according to a dynamic host configuration protocol (DHCP)

16.   (previously presented) A method as recited in Claim 11, said step of sending the second request further comprising the step of formatting the second request according to a dynamic host configuration protocol (DHCP).

17.   (previously presented) A method as recited in Claim 16, wherein the qualifier is included in the second request in a set of optional fields associated with the relay-agent in the DHCP.

18.   (previously presented) A method as recited in Claim 11, further comprising the steps of:

       in response to sending the second request, receiving from the configuration server a

            first response, the first response indicating the particular qualifier and a

            particular network address for the host;

       determining that the particular qualifier is associated with the first network; and

       sending a second response to the host on the first network, the second response

            including the particular network address.

19.   (previously presented) A method as recited in Claim 18, wherein the second response does not include the qualifier.

20.   (previously presented) A method as recited in Claim 18, wherein the first response is formatted according to a dynamic host configuration protocol (DHCP)

21.   (previously presented) A method as recited in Claim 20, wherein the qualifier is included in the first response in a set of optional fields associated with the relay-agent in the DHCP.

22.   (previously presented) A method as recited in Claim 18, wherein:

       the host is on a particular segment of the first network;

       the particular segment is connected to a particular interface of the intermediate

            device; and

       the particular qualifier includes a segment identifier for the particular segment.

23.   (previously presented) A method as recited in Claim 22 wherein:

said step of determining that the particular qualifier is associated with the first

network further comprises determining that the segment identifier is

associated with the particular interface; and

said step of sending the second response to the host comprises sending the second

response through the particular interface.

24. – 29.   (cancelled)